November 2014

Country Study

Fossil fuel exploration subsidies: Saudi Arabia

Shelagh Whitley and Shakuntala Makhijani

This country study is a background paper to the report **The fossil fuel bailout: G20 subsidies for oil, gas and coal** by Oil Change International (OCI) and the Overseas Development Institute (ODI).

For the purpose of this report, exploration subsidies include: national subsidies (direct spending and tax expenditures), investment by state-owned enterprises and public finance. The full report provides a detailed discussion of technical and transparency issues in identifying exploration subsidies, and outlines the methodology used in this desk-based study.

The authors would welcome feedback on the full report and on this country study, to improve the accuracy and transparency of information on G20 government support to fossil-fuel exploration.

Background

Saudi Arabia has 16% of the world's proved oil reserves, and is the largest exporter of petroleum liquids in the world (U.S. EIA, 2014). The country's economy remains heavily dependent on oil and gas, with exports accounting for 90% of total government revenues, 88% of total export earnings, and the oil sector contributing about 35% of GDP (OPEC, 2014; Alshaharani and Alsadiq, 2014). Saudi Arabia does not have any domestic coal production.

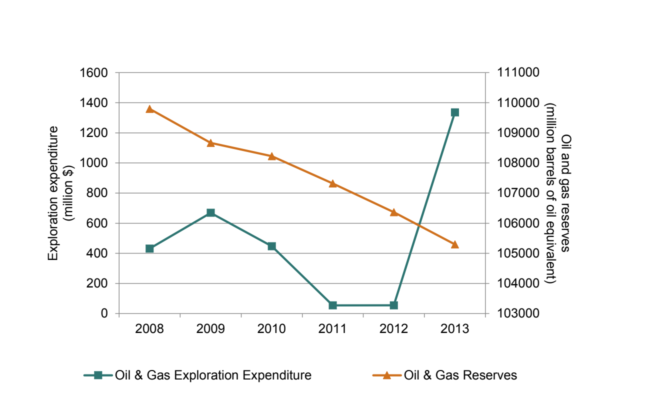
Saudi Arabia's oil and natural gas operations are dominated by Saudi Aramco, the state-owned, national oil and gas company, which is also the world's largest oil company in terms of production and reserves (U.S. Department of State, 2012). Both the Ministry of Petroleum and Mineral Resources (MPMR) and the Supreme Council for Petroleum and Minerals (SCPM) have oversight of the oil and gas sector in Saudi Arabia. The MPMR is responsible for establishing and administering policies related to oil, gas and minerals, and for monitoring activities related to petroleum and petroleum products, from exploration and development to refining and distribution. The SCPM, comprised of members of the royal family, industry leaders and government ministers, is responsible for petroleum and natural gas policy-making, including contract review, and sets broad policies for Saudi Aramco (Lahn and Stevens, 2011; Open EI, 2011).

With the country's largest oil production projects nearing completion, Saudi Arabia is now focussing on large-scale expansion in the exploration and development of unconventional gas resources (natural gas trapped in shale and tight sands). Accessing these resource is seen by Saudi Aramco as 'an important strategic step for continued economic development in the Kingdom' for the following reasons: meeting the country's own energy demand; for power generation and water desalination; and increasing the volumes of higher-value diesel and crude oil available for export (Saudi Aramco, 2013).

National subsidies

Saudi Aramco (officially the Saudi Arabian Oil Company), is 100% state-owned (U.S. Department of State, 2012). State-owned enterprises (SOEs) in Saudi Arabia benefit from subsidised water, power and feedstock and often receive free land from the Government, and it is believed that these SOEs do not operate under 'hard budget constraints' that could indicate additional financial support from the Saudi Government (U.S. Department of State, 2012). The Ministry of Finance reported that total domestic subsidies (across all sectors) were $12.7 billion in 2013 (Ministry of Finance, 2014).

Figure 1. Oil and gas exploration expenditure and reserves in Saudi Arabia



Source: Rystad Energy, 2014.

Saudi Aramco produced 11.6 million barrels of oil equivalent (BOE) of total petroleum liquids per day in 2013, of which 9.6 million BOE was crude oil, generating revenue of $405 billion (U.S. EIA, 2014). The company is allowed to keep its revenue from crude and product sales, and then pays royalties and dividends equivalent to 93% of its profits. In 2013, the company retained nearly $40 billion in profits, while the Saudi Government received $239 billion in income taxes and over $80 billion in royalties (Table 1). As the company pays out its operating costs after paying royalties, but before paying dividends, there is limited incentive to curtail operating costs (World Bank, 2007).

Although there is effective transparency between Saudi Aramco and the Government through the SCPM, which is provided with operating reports and independently audited financial accounts, this information is not available to wider society or to many other parts of the Government. As a result, there is a distinct lack of transparency in the nature of the oil revenues accruing to the central Government (World Bank, 2007).

Saudi Arabian regulations do not, at present, allow foreign investment in oil exploration, drilling and production. However, there are legacy foreign operations in the Partitioned Neutral Zone with Kuwait, and for

Table 1: Revenue breakdown for Saudi Aramco (2013) (million $)

	Free cash flow	Royalty effects	Income tax	Well capital expenditure	Facility capital expenditure	Exploration capital expenditure	Operating expenditure
Saudi Aramco	39,583	81,034	239,098	9,646	8,203	1,334	26,967

Source: Rystad Energy, 2014

the first time since Saudi Aramco was established in 1980, foreign investors have been invited to engage in non-associated natural-gas[1] exploration (International Business Publications, 2009) (see section below on 'Major companies). The basic corporate tax rate on a non-Saudi's share in a resident corporation and on income derived by a non-resident from a permanent establishment in Saudi Arabia is 20%. This rate is higher (30%) for taxpayers working in the exploitation of natural gas, and is 85% for taxpayers engaged in the production of oil and hydrocarbons (Deloitte, 2014).

Investment by state-owned enterprises

As outlined above, Saudi Aramco is a 100% government-owned SOE that has exclusive access to oil exploration, drilling and production in Saudi Arabia. In 2010, the *Financial Times* estimated that the company was worth up to $10 trillion, making it the world's most valuable company (*Financial Times*, 2010). In 2013, the company estimated that one in every eight barrels of oil produced around the world came from Saudi Aramco (Saudi Aramco, 2013).

In 2013, Saudi Aramco reported that the value of the company's 'service and material procurement' was $28 billion, and in 2014 it announced that total annual investment would be increased to $40 billion a year in the next decade, the bulk of which would be 'in upstream, and increasingly from offshore, with the aim of maintaining our maximum sustained oil production, while also doubling our gas production' (Saudi Aramco, 2013; Al-Falih, 2014).

Saudi Aramco has a long history of exploring for oil and gas, and a significant portion of the company's workforce consists of geophysicists and geologists. In 2013 alone, the company discovered three new oil fields (including Al-Haryd in the deep waters of the Red Sea) and two new gas fields, bringing the total number of oil and gas fields to 121. It also completed 29 oil-exploration wells, 50 gas-exploration wells (conventional and unconventional), and 282 oil and gas development wells (Saudi Aramco, 2013). In 2012, the company announced a $25 billion capital expenditure in exploration to develop the oil and gas reserves in the Red Sea (Madueke, 2014).

Saudi Aramco is prioritising exploration of non-associated gas over oil, investing in large-scale development of unconventional gas resources.[2] Saudi Arabia may hold as much as 645 trillion cubic feet (Tcf) of shale gas, the world's fifth-largest deposits, behind China, the U.S., Argentina and Mexico, and more than double the country's conventional gas reserves of 288 Tcf (Husain, 2014).[3]

In order to access these unconventional gas resources, Saudi Aramco launched its Upstream Unconventional Gas program in 2011 (operational in 2013) and, together with the MPMR, announced a $9 billion strategy to add 50 Tcf of non-associated reserves by 2016 through new discoveries (Lahn and Stevens, 2011). Tapping this resource is seen as critical for economic development in the Kingdom, to support domestic power generation for phosphate mining, manufacturing and water desalination, and to increase the volumes of higher value diesel and crude oil available for export (Saudi Aramco, 2013).

To support this scaled up exploration, Saudi Aramco has established skills and training programmes and has increased research and development (R&D) funding five-fold. This includes the Upstream Professional Development Center (UPDC) to support workforce development for petroleum engineers and geoscientists, the Exploration and Petroleum Engineering Advanced Research Center (EXPEC ARC), and a new Aramco Research Centre in Houston that support R&D for exploration (Saudi Aramco, 2013). The company also established Saudi Aramco Energy Ventures in 2012 to invest in start-up and high-growth companies developing technologies applicable to its upstream operations (Reuters, 2012).

Table 2: State-owned enterprise (SOE) oil and gas exploration investment

	Investor	Targeted fossil fuels	Estimated annual amount (million $)	Timeframe for subsidy-value estimate	Targeted specifically at exploration
SOE investment					
Service and material procurement	Saudi Aramco	Oil and gas	28,000	2013	Total procurement (majority upstream exploration and production

Source: Saudi Aramco, 2013

1 Non-associated gas reserves are developed primarily to produce natural gas (ie. gas is not a by-product in the extraction of oil).

2 Unconventional gas refers to the deposits of natural gas trapped in shale and tight sands.

3 Based on analysis by Baker Hughes.

Public finance

Domestic

Saudi Arabia has established a number of vehicles for investing the country's surplus oil revenue. These include: the Ministry of Finance's Public Investment Fund (PIF) established in 1971; the Saudi Arabian Investment Company (also known as Sanabil al-Saudia,) a sovereign wealth fund launched in 2009 within the Ministry of Finance's PIF; and the Foreign Holdings (FH) fund. Sanabil holds $5.3 billion in assets (stocks, bonds, real estate, foreign currencies and commodities), and has been active on the domestic market, including in oil and gas (though it is not clear how much of this involves domestic and international support to exploration) (Oxford Business Group, 2013).

In addition to having significant ownership in the oil and gas industry, state-owned banks account for a significant proportion of banking assets in Saudi Arabia (Colombo, 2014). The country's largest domestic bank, National Commercial Bank (NCB), is 69% controlled by the Government's PIF and 10% owned by the General Organization for Social Insurance, a federal agency. Although it is not clear what proportion of the banks' assets supported oil and gas exploration, NCB loans and advances to 'electricity, water, gas and health services' amounted to $2.7 billion in 2013 (or 5% of total loans) (NCB, 2013).

Finally, the Ministry of Finance has a Deputy Ministry for Revenue Affairs: Domestic Loans and Subsidies, and subsidised loans are available from the Saudi Industrial Development Fund (SIDF) to both foreign and Saudi-owned enterprises. It is not clear what volume of subsidised loans is provided and what portion might support exploration activities (domestically and abroad) (U.S. Department of State, 2012).

International

The majority of Saudi Arabia's international finance is not available for oil and gas activities. The Saudi Fund for Development's (SFD) export programme provides technical assistance and credit to foreign buyers and institutions, but only for national, non-crude oil exports (SFD, 2012).

However, one development-finance project was identified under the SFD involving a loan of $8.2 million to Bangladesh for the drilling of three oil and gas exploration wells (sometime between 1975 and 2012) (SFD, 2012).

The Islamic Development Bank Group (ISDB), in which Saudi Arabia had a 26% shareholding on the basis of paid-in capital (as of August 2012), has an energy policy that excludes investment in certain projects in the extractive industries, and does not support oil and gas exploration:

Development of new oil, natural gas and coal production facilities may be exceptionally supported under PPP[4] scheme (excluding areas involving high financial risk, such as, oil and gas field exploration)(ISDB, 2013).

Saudi Arabia contributed an average of 1.2% of funding to multilateral development banks (MDBs) that invested in fossil-fuel exploration projects between 2010 and 2013. These contributions render Saudi Arabia responsible for

Table 3: Domestic and international public finance for fossil-fuel exploration

Support	Support type	Targeted fossil fuels	Estimated annual amount (million $)	Timeframe for subsidy-value estimate	Exploration or extraction (including exploration)
Public finance, domestic					
Funds for managing surplus oil revenue (including sovereign wealth funds)	Debt and equity	Oil and gas	n/a	n/a	Undefined
Majority state-owned banks (ie. National Commercial Bank)	Loans and advances	Oil and gas	n/a	n/a	Undefined
Saudi Industrial Development Fund (SIDF)	Subsidised loans	Oil and gas	n/a	n/a	Undefined
Public finance, international					
Saudi Fund for Development	Loan	Oil and gas	8.2	1975-2012 (unknown)	Exploration

4 Public-private partnership.

5 Data are based partly based on shares of multilateral development banks (MDBs) held by each G20 country from the respective MDB annual reports and replenishment agreements.

average annual spending on exploration for fossil-fuels of $9.5 million across this period (Oil Change International, 2014).[5]

Major companies

Oil and gas

Current Saudi Arabian regulations do not allow oil exploration, drilling and production from foreign investment, with Saudi Aramco completing all oil exploration and development within the country. In addition, foreign companies cannot, under current Saudi law, purchase a stake in Aramco or take an equity position in the upstream sector (International Business Publications, 2009).

In July 2003, however, the Ministry of Petroleum announced an auction to open up part of three blocks of the Ghawar area (Empty Quarter) to foreign investors for non-associated natural-gas exploration. In January 2004, four companies or consortiums were awarded blocks, signing 40-year exploration and production contracts with the MPMR (International Business Publications, 2009).

These included:

- South Rub al-Khali Company, or SRAK (a venture of Saudi Aramco and Royal Dutch Shell)
- Luksar Energy Limited (a venture of Saudi Aramco and the Russian oil company, Lukoil)
- Sino Saudi Gas Limited (a venture of Saudi Aramco and Sinopec)
- EniRepSa Gas Limited (a consortium of Saudi Aramco, the Italian oil company, Eni, and the Spanish oil company, Repsol) (Table 4).

As of July 2014, none of these ventures had made significant commercial discoveries, in part because development costs would be far higher than Saudi Arabia's official domestic natural-gas price. In 2010, Luksar gave up 90% of its exploration area to focus on a smaller area with possible gas discoveries. In 2012, both Eni and Repsol pulled out of the joint venture. In 2014, Shell ended its exploration of the Empty Quarter (U.S. EIA, 2014; Critchlow, 2014).

Table 4: Revenue breakdown for activities in Saudi Arabia by top foreign producers (2013) (million $)

Company	Headquarter Country	Free cash flow	Royalty effects	Income tax	Well capital	Facility capital expenditure	Exploration capital expenditure	Operating expenditure
Lukoil	Russia	1.52	-	(2.15)	-	-	0.66	-
BAPCO	Bahrain	620	1,114	3,330	34	71	0.07	401
Shell	Netherlands	(0.07)	-	-	-	-	0.08	-
Sinopec Group (parent)	China	-	-	-	-	-	0.15	-

Source: Rystad Energy, 2014

References

Al-Falih, K. (2014) 'Future Oil Industry: Turning Challenges into Opportunities presented' at 'Offshore Northern Seas Conference 2014'. Stavanger, 25 August. (http://goo.gl/cuH93E)

Alshaharani, S. and Alsadiq, A. (2014) 'Economic Growth and Government Spending in Saudi Arabia: An Empirical Investigation'. IMF Working Paper 14/3. Washington D.C.: International Monetary Fund. (http://www.imf.org/external/pubs/ft/wp/2014/wp1403.pdf)

Colombo, S. (ed.) (2014) *Bridging the Gulf: EU-GCC Relations at a Crossroads*. IAI Research Papers. Rome: Istituto Affari Internazionali. (http://www.iai.it/pdf/Quaderni/iairp_14.pdf)

Critchlow, A. (2014) 'Saudi Arabia gas project has failed, admits Shell'. *The Telegraph,* 5 July. (http://goo.gl/5y2ZH0)

Deloitte (2014) *International Tax: Saudi Arabia Highlights 2014*. London: Deloitte. (http://goo.gl/BIJwZH)

Financial Times (2010) 'Big Oil, bigger oil'. *The Financial Times,* 4 February.

Husain, S.R. (2014) 'KSA shifting to unconventional gas resources: Energy Outlook'. *Saudi Gazette,* 3 August. (http://goo.gl/gfxbRo)

International Business Publications (2009) *Saudi Arabia: Investment and Business Guide*. Washington D.C.: International Business Publications, USA.

ISDB (2013) *Energy for Prosperity: Policy for the Transition*. Jeddah: Islamic Development Bank. (http://goo.gl/4PH8Ts)

Lahn, G. and Stevens, P. (2011) *Burning Oil to Keep Cool: The Hidden Energy Crisis in Saudi Arabia*. London: Chatham House. (http://goo.gl/0uQCdK)

Madueke, D. (2014) 'Saudi Aramco shuns northern Red Sea exploration'. *ArabianOilandGas.com,* 10 June. (http://goo.gl/qoNKPT)

Ministry of Finance (2014) 'Statistical Tables'. Riyadh: Government of Saudi Arabia. (http://www.mof.gov.sa/English/DownloadsCenter/Pages/Statistics.aspx)

NCB (2013) *Annual Report 2013*. Jeddah: National Commercial Bank. (http://goo.gl/KqSTPi)

Oil Change International (2014) 'Shift the Subsidies'. Washington D.C.: Oil Change International. (http://shiftthesubsidies.org)

Open EI (2011) 'Kingdom of Saudi Arabia Ministry of Petroleum and Mineral Resources'. (http://goo.gl/TB1GBB)

OPEC (2014) *Annual Statistical Bulletin 2014*. Vienna: Organization of the Petroleum Exporting Countries. (http://goo.gl/TcBoSy)

Oxford Business Group (2013) *The Report: Saudi Arabia 2013*. Dubai: Oxford Business Group. (http://www.oxfordbusinessgroup.com/saudi-arabia-2013)

Reuters (2012) 'Saudi Aramco to invest in new energy ventures'. Reuters, 9 July. (http://english.alarabiya.net/articles/2012/07/09/225423.html)

Rystad Energy (2014) 'Rystad Energy UCube Upstream Database'. Oslo: Rystad Energy. (http://www.rystadenergy.com/Databases/UCube)

Saudi Aramco (2013) *Annual Review 2013: Exploring New Opportunities*. Dhahran: Saudi Aramco. (http://goo.gl/0wYQNr)

SFD (2012) *Annual Report 2012*. Riyadh: Saudi Fund for Development. (http://goo.gl/sLHuUV)

U.S. Department of State (2012) *2012 Investment Climate Statement – Saudi Arabia*. Washington D.C.: U.S. Department of State. (http://www.state.gov/e/eb/rls/othr/ics/2012/191229.htm)

U.S. EIA (2014) 'Saudi Arabia Country Analysis Overview'. Washington D.C.: U.S. Energy Information Administration. (http://goo.gl/lp9nvW)

World Bank (2007) *Investing in Oil in the Middle East and North Africa : Institutions, Incentives and the National Oil Companies*. World Bank Report 40405-MNA. Washington D.C.: World Bank. (http://goo.gl/gtXk45)

Overseas Development Institute
203 Blackfriars Road
London SE1 8NJ
Tel +44 (0)20 7922 0300
Fax +44 (0)20 7922 0399
www.odi.org
info@odi.org

Oil Change International
714 G Street SE Suite 202
Washington, DC 20003 USA
Tel: +1 202 518 9029
Fax: +1 202 330 5952
www.priceofoil.org
info@priceofoil.org

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